

A P P E N D I X

1. A process for the preparation of an isocyanurate- and uretdione-containing polyisocyanate mixture having a reduced color number by catalytic oligomerization of aliphatic or cycloaliphatic diisocyanates, wherein said diisocyanates have been prepared by a phosgene-free method and have a carbon dioxide content of from 20 to 6000 ppm.

2. The process of claim 1, wherein the aliphatic or cycloaliphatic diisocyanates are prepared by thermal cleavage of the corresponding carbamates.

3. The process of claim 1, wherein the diisocyanate is 1,6-diisocyanatohexane.

4. The process of claim 1, wherein the monomeric diisocyanate has a carbon dioxide content of from 20 to 500 ppm.

5. An isocyanurate- and uretdione-containing polyisocyanate mixture having a reduced color number, prepared by the process of claim 1.

6. The process of claim 1, wherein the monomeric diisocyanate has a carbon dioxide content of from about 137 to about 337 ppm.

In assessing the subject matter of this claim, it is necessary to bear in mind certain principles concerning product-by-process claims. Foremost among these is the principle that even though product-by-process claims are limited by and defined by a process, the determination of patentability is based on the product itself. In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). Thus, the patentability of the so-claimed product does not depend on the method of production; if the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Id.

As correctly indicated by the examiner in his answer, the isocyanurate- and uretdione-containing polyisocyanate mixture of Dell is explicitly described by patentee as having "an exceptionally low Hazen color number" (column 4, line 41). Indeed, in Example 2 of Dell, the product possesses a Hazen color number below 40 (see lines 33 and 34 in column 6) which is less than the Hazen color numbers of the comparison products described in Examples 1 through 3 of the appellants' specification. That the Hazen color number of Dell's Example 2 product may have been due to a peroxide treatment does not militate against an

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obviousness conclusion. This is because the determination of patentability is based on the product itself rather than the method by which it is made as explained above.²

The above discussed considerations lead to the determination that the polyisocyanate mixtures of Dell may be appropriately characterized as "having a reduced color number" and correspondingly may be appropriately regarded as indistinguishable from the polyisocyanate mixture of appealed claim 5.

The appellants argue that the appealed claim 5 polyisocyanates differ (e.g., via a lower color number) from those of Dell. Where, as here, the claimed and prior art products are identical or substantially identical, it is appropriate to require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. Whether the rejection is based on "inherency" under 35 U.S.C. § 102, on "prima facie obviousness" under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the inability of the Patent and Trademark Office to manufacture

²In addition, it is appropriate to emphasize that appealed process claim 1 does not exclude a peroxide treatment.

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products or to obtain and compare prior art products. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977).

The only such proof advanced by the appellants on the record before, us relates to the Hazen color numbers possessed by the products of specification Examples 4 and 5. We agree with the examiner, however, that the evidence represented by these two examples is considerably more narrow in scope than the here claimed subject matter. In this regard, it is well settled that evidence which is considerably more narrow in scope than the claimed subject matter is not sufficient to rebut a prima facie case established by the Patent and Trademark Office. In re Dill, 604 F.2d 1356, 1361, 202 USPQ 805, 808 (CCPA 1979).

Under these circumstances, we must sustain the examiner's section 103 rejection of appealed product-by-process claim 5 as being unpatentable over Dell.

The decision of the examiner is affirmed-in-part.